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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/572,552	03/17/2006	Hye-Ryung Lee	3449-0600PUS1	5082

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BIRCH STEWART KOLASCH & BIRCH  
PO BOX 747  
FALLS CHURCH, VA 22040-0747

EXAMINER
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GOODLEY, JAMES E

ART UNIT	PAPER NUMBER
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2817

NOTIFICATION DATE	DELIVERY MODE
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03/30/2009

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/572,552	<b>Applicant(s)</b> LEE, HYE-RYUNG	
	<b>Examiner</b> JAMES E. GOODLEY	<b>Art Unit</b> 2817	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 30 December 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 March 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Response to Arguments***

Applicant's arguments filed 12/30/2008 have been fully considered but they are not persuasive. Applicant argues as far as the independent claims, that Harford does not disclose both the trap filter and sound trap filter as claimed. However, Harford discloses a sound trap filter [SAW filter 15], which reduces the in channel sound-carrier 41.25 MHz frequency by about 30 dB (see lines 57-58 of column 4). Harford also discloses a trap filter [41] which is disposed at an output of the sound trap filter and the video detector [18] and which eliminates a beat component (4.5 MHz beat component – see lines 19-24 of column 3).

The 35 U.S.C. 112/2<sup>nd</sup> paragraph rejection is removed, due to claim amendment.

### ***Claim Objections***

Claim 5 is objected to because of the following informalities:

It appears that the last line of claim 5 should read, “a video buffer amplifier disposed between the video equalizer and the trap filter filter.”

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 4-8, 10-15 and 18-20 are rejected under 35 U.S.C. 102(b) as being anticipated by **Harford et al. (US 5,337,091 – of record)**.

Regarding **claims 1, 4-8, 10-15 and 18-20**, Fig. 1 of Harford discloses a demodulating unit of a tuner, comprising:

a first filter [SAW filter 16];

an RF processing unit [RF amplifier 11 and RF AGC 43];

an IF demodulating unit [12] for demodulating an intermediate frequency signal outputted from the RF processing unit (down-converter 12 selects the desired image and sound channel from the received RF signal and outputs the selected channel information according to the output from the gain-processed RF amplifier 11);

a sound signal processing line [path through SAW filter 16 and IF amplifier 21] diverging from the filter to produce a sound signal [SOUND OUT] (the output of amplifier 21 is based on I Video output from block 18; the sound signal is also developed from the output of SAW filter 16, which diverges from the path of SAW filter 15);

a video signal processing line [output of PIX IF Amplifier 17] diverging from the filter (not passing through that filter) to produce a baseband video signal [I and Q VIDEO OUTPUT];

a trap filter [4.5MHz trap 41] disposed at the video signal processing line to a beat/noise component (see lines 19-24 of column 3);

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and a sound trap filter [SAW filter 15] disposed at an input port of the trap filter (via amplifier 17 and I video detector 18). Sound trap filter 15 reduces the in channel *sound-carrier* 41.25 MHz frequency by about 30 dB (see lines 57-58 of column 4).

The trap filter eliminates an FM radio signal of an upper adjacent channel (see line 50 of column 4 to line 39 of column 5 – an adjacent sound channel [47.25 MHz] to the video channel [45.75 MHz] of is eliminated, the sound channel having a 4.5MHz base bandwidth eliminated by the trap filter in the video path).

The video signal processing line includes a video detector [18, 19], a sound IF trap filter [15], a video equalizer [noise canceller 50 and SAW filter 15] and a video buffer amplifier [17, 47].

The sound signal processing line includes a sound detector [26] and a sound signal passing filter [24, 25].

An alternative first filter [40] is disclosed which aids in outputting a phase locked frequency [output of VCO 35] identical to that of the PIX IF Amplifier 17 output to the video detectors 18 and 19.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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Claims 2, 3, 9, 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over ***Harford et al. (US 5,337,091 – of record)***.

Regarding **claims 2, 3, 9, 16 and 17**, Harford fails to specifically disclose, "wherein the trap filter eliminates a frequency signal of 4.85-5.25MHz"; "wherein the baseband signal is a baseband signal of US channel 6 in an NTSC broadcasting system"; or, "wherein the FM radio frequency is in a range of 88.1-88.5Mhz."

However, Harford does disclose the use of this tuner circuit in an NTSC broadcasting system (see column 1, lines 41-61). Harford also discloses that the sound is in an FM band of operation (FM detector 26 and lines 23-38 of column 5). One of ordinary skill in the art would appreciate that the tuner can be designed to accommodate different FM and NTSC broadcasting frequency ranges by appropriate design of the trap filter 41 and of the SAW filters 15 and 16.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to design the tuner to accommodate NTSC channel 6, the FM range of 88.1-88.5Mhz by appropriate design of the trap and SAW filters (with the trap eliminating a frequency signal of 4.85-5.25MHz), for the purpose of utilizing whichever NTSC and FM frequency range is desired.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

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§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

#### ***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JAMES E. GOODLEY whose telephone number is (571)272-8598. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert J. Pascal can be reached on (571)272-1769. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/James E Goodley/  
Examiner, Art Unit 2817

/Robert Pascal/  
Supervisory Patent Examiner, Art Unit 2817